

## Claims

1. A flame simulating apparatus comprising
  - 5       i)       a light source;
  - ii)       a viewing screen capable of diffusing and transmitting light,
  - iii)       a rear reflecting means disposed behind the viewing screen;
  - iv)       means for producing moving beams of light; wherein
  - 10       the light source is disposed below the reflecting means and behind the
  - viewing screen, the means for producing moving beams of light is disposed in
  - front of the light source and below the screen and light from the light source
  - is reflected by the means for producing moving beams of light onto the
  - reflecting means and is reflected by the reflecting means onto the screen to
  - 15       produce a perceptible image viewable on the screen, and wherein the light
  - source comprises at least one light bulb having a diameter of not more than
  - about 40mm.
2. A flame effect electric fire comprising:
  - i)       a housing adapted to be mounted on a substantially plane wall;
  - 20       ii)       heating means disposed in the housing operative to draw air into the
  - housing, heat the air and expel the heated air; and
  - iii)       a flame simulating assembly mounted in the housing and comprising:
    - (a) a light source;
    - (b) a viewing screen capable of diffusing and transmitting light;
    - 25       (c) a rear reflecting means disposed behind the viewing screen; and
    - (d) means for producing moving beams of light, wherein
    - the light source is disposed below the reflecting means and behind the viewing
    - screen, the means for producing moving beams of light is disposed in front of the
    - light source and below the screen and light from the light source is reflected by the
    - 30       means for producing moving beams of light onto the reflecting means and is

reflected by the reflecting means onto the screen to produce a perceptible image viewable on the screen, and wherein the heating means draws in and expels air through a downwardly facing external panel of the housing.

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3. A flame effect electric fire as claimed in claim 2 wherein the light source comprises at least one halogen bulb or tungsten filament bulb having a maximum external dimension of not more than about 40mm.

- 10 4. A flame simulating apparatus as claimed in claim 1 or a flame effect fire as claimed in claim 2 or 3 wherein light from the light source is prevented from falling directly onto the viewing screen by means of a baffle mounted above the light source.

- 15 5. A flame simulating apparatus as claimed in claim 1 or 4 or a flame effect fire as claimed in claim 2, 3 or 4 wherein an additional reflector is disposed behind the light source.

- 20 6. A flame simulating apparatus as claimed in claim 1, 4 or 5 or a flame effect fire as claimed in any of claims 2 to 5 wherein the light source has a width of not more than about 35mm, preferably not more than about 20mm.

7. A flame simulating apparatus or a flame effect fire as claimed in claim 4 wherein the light source has a width of not more than about 15mm.

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8. A flame simulating apparatus as claimed in claim 1 or 4 to 7 or a flame effect fire as claimed in any of claims 2 to 7 wherein the means for producing moving beams of light comprises a shaft mounted substantially horizontally for rotation about its axis, said shaft having a plurality of generally radially directed pieces of reflective material depending therefrom, said pieces being effective to reflect light from the  
30 light source onto the screen.

9. A flame simulating apparatus or a flame effect fire as claimed in claim 8 wherein the shaft is driveably connected at its first end to a drive means (such as a motor) for rotation of the shaft and is retained at its second end in a supporting bracket, the shaft being displaceable from its operative position thereby to permit access to the light source.
10. An apparatus for producing a visual effect (in particular for simulating flames) comprising:
- i) a light source;
  - ii) a viewing screen capable of diffusing and transmitting light,
  - iii) means for producing moving beams of light,
- wherein:
- a) light from the light source is reflected by the means for producing moving beams of light, either directly or indirectly, onto the viewing screen to produce a perceptible image viewable on the screen; and
  - b) the means for producing moving beams of light comprises a shaft mounted for rotation about its axis and having a reflective material mounted thereon for reflecting light from the light source, the shaft is driveably connected at its first end to a drive means operative to rotate the shaft and is retained at its second end in a supporting bracket, the shaft being displaceable from its operative position thereby to permit access to the light source.
11. A flame simulating apparatus or a flame effect fire as claimed in claim 8 or 9 or an apparatus as claimed in claim 10 wherein the shaft is connected to the drive means via a flexible bush and the second end of the shaft is releaseably mounted in the bracket, the shaft being displaceable when desired by flexure of the flexible bush.
12. A flame simulating apparatus as claimed in claim 1, 3 to 9 or 11 or a flame effect fire as claimed in any of claims 2 to 8 or 11 or an apparatus as claimed in claim 10

or 11 wherein the rear reflecting means comprises a sheet of material having reflecting regions and non-reflecting regions.

5 13. A flame simulating apparatus or a flame effect fire or apparatus for producing a visual effect as claimed in claim 12 wherein the reflecting regions are generally flame shaped.

10 14. A flame simulating apparatus as claimed in claim 1 or 3 to 9 or 11 to 13, or a flame effect fire as claimed in any of claims 2 to 8 or 11 to 13, or an apparatus for producing a visual effect as claimed in claims 10 to 13 wherein the reflecting surface of the rear reflecting means is concave.

15 15. A flame simulating apparatus as claimed in claim 1 or 3 to 9 or 11 to 14, or a flame effect fire as claimed in any of claims 2 to 9 or 11 to 14 or an apparatus for producing a visual effect as claimed in claims 10 to 14 further comprising a simulated fuel bed disposed directly in front of the diffusing and transmitting screen.

20 16. A flame simulating apparatus or a flame effect fire or an apparatus for producing a visual effect as claimed in claim 15 wherein the screen comprises a reflective front surface whereby a reflection of the fuel bed can be seen in the screen.